



King County

Department of  
Natural Resources and Parks  
Wastewater Treatment Division  
King Street Center  
KSC-NR-0505, 201 S. Jackson St.  
Seattle, WA 98104-3855



### Tours and brochures are available

Want to learn more about  
what happens when you flush  
or brush? To schedule a tour or  
to ask for a brochure, please call  
206-296-8286.

Or come to our October 14  
Open House. Details inside!

### Alternative formats available

206-684-1280 or TTY Relay: 711

<http://dnr.metrokc.gov/wtd/>

0609southPLnews.indd wgab, sk

## Remodel Of Administration Building To Begin Next Year

The 41-year-old Administration Building of the South Treatment Plant is being remodeled starting early next year. The new building will be built to comply with new seismic standards and LEED Silver standards. LEED is a certification for “green” buildings, and the new building will have many water and energy saving features. It will provide conference rooms for wastewater education and public events, an up-to-date laboratory facility, upgraded safety features, natural lighting, updated employee work spaces, and beautiful native landscaping. The remodel is expected to take 18 months.



EAST ELEVATION



NORTH ELEVATION

PRESORTED  
STANDARD  
U.S. POSTAGE  
PAID  
SEATTLE, WA  
PERMIT NO. 836



King County  
Department of  
Natural Resources and Parks  
Wastewater Treatment  
Division

# South Plant NEWS

A newsletter updating the neighbors of the South Treatment Plant

Fall 2006

## Please join us for a treatment plant Open House this October 14!

### Where Does Water Go When You Flush Or Brush?

EVER WONDER what happens to the  
sewage from homes, schools, stores,  
industries, office buildings, athletic  
stadiums, shopping malls and concert halls?

EVER WONDER how wastewater  
treatment plants clean the water and  
make sure our public health and  
environment are protected?

EVER WONDER how treatment plants  
reclaim resources such as energy and  
biosolids?

**You can see what happens first hand at  
an open house at the South Treatment  
Plant in Renton!**

**When:** Saturday, October 14th  
from 10 a.m. to noon.

**Where:** South Treatment Plant  
1200 Monster Road S.W. in Renton

- Treatment plant tours
- Educational displays
- Refreshments

For more information and directions, please call  
206-296-8361 or go to <http://dnr.metrokc.gov/wtd/directions>.

For 41 years, King County's Wastewater Treatment  
Division has been protecting public health and water  
quality at the South Treatment Plant in Renton.  
Our regional wastewater treatment system now serves  
17 cities, 17 local sewer agencies and more than  
1.4 million residents in King, Snohomish and Pierce  
counties.



## PASSING THE SNIFF TEST: ODOR CONTROL UPGRADES IN THE WORKS

**ODOR CONTROL** improvements at the South Plant are getting  
underway. In 2003, the King County Council passed an ordinance  
requiring upgrades of odor control systems at both regional  
wastewater treatment facilities. Both internal and external  
experts did testing to identify the most odoriferous sources at  
the plant and designed a system to capture and remove the  
odors. The plan at South Plant is in three phases with some  
evaluation time set in between each phase.

(continued inside)

*Above: A photo of South Plant in 1966 in what used to be an  
almost rural area. Notice the surrounding farmland.*

*Below: Another photo taken of South Plant this time  
in 1996. Quite a difference 30 years makes.*





(Odor Control, continued from cover)

Covering and installing duct work to the first pass of the aeration basins and the Return Activated Sludge channel will be completed in the first phase. Covering both of these processing areas along with installing proper duct work to direct air flow towards and through a new chemical wet scrubber are expected

to significantly decrease the odors both on and offsite. The design of this first phase is complete, and construction has begun and should be completed before the end of 2007.



The first pass of the aeration basin is the most odoriferous portion and it will be covered.



Odors are absorbed and removed from the airstream of this odor control structure using a dilute solution of household bleach.

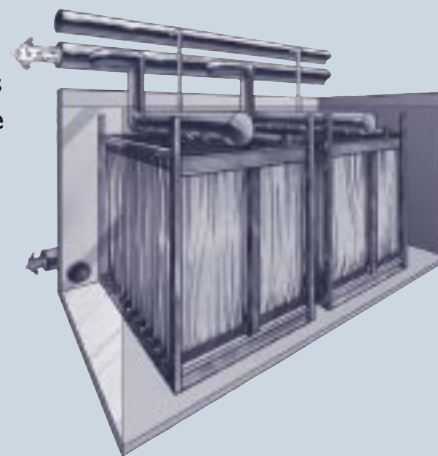
## Testing of advanced wastewater technology at South Treatment Plant

Cleaner water, smaller facilities and easier operations—these are the potential benefits offered by many new wastewater treatment technologies. Over the last five years, King County's Technology Assessment Program has tested a number of these systems. One of these technologies, the membrane bioreactor process, was selected for the new Brightwater and Carnation treatment plants.

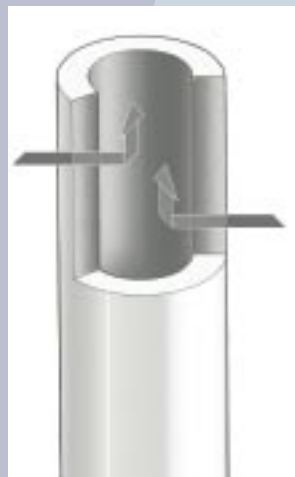
Currently, the Technology Assessment Program and treatment plant staff are operating a small membrane bioreactor (MBR) on site at South Plant to introduce plant staff to the operation and process monitoring of the membrane system. In addition, several MBR operating conditions are being tested to monitor impact on filtration and resulting water quality.

A membrane bioreactor is an advanced wastewater technology which combines an activated sludge biological treatment process with membrane filtration. The membrane filtration replaces the secondary clarifier typically found in conventional activated sludge wastewater treatment plants. The membrane material, acting as a filter, allows water to pass while retaining suspended solids in the treatment process. Membranes are configured as hollow fibers with a slight suction pressure applied to the inside of the fiber acting as the driving force to draw water through the membrane.

- It introduces treatment plant staff to the operation and process monitoring of the membrane system prior to its installation at the Carnation and Brightwater Treatment Plants.
- It also is providing an opportunity to evaluate the kind of reclaimed water this technology can provide and the impact of process operating conditions on membrane filtration and water quality.



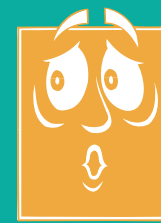
A membrane unit is called a cassette, this photo shows two cassettes. This unit is immersed in wastewater and water is gently sucked through microscopic pores in the individual strands leaving the waste behind.



This close up of an individual strand shows how gentle suction pulls clean water through microscopic pores.



Here is a close up of individual strands in action.



### Odor Control 101

King County protects public health and the environment by treating 200 million gallons of wastewater every day. Being a good neighbor by controlling odors is a part of the normal operation of every treatment facility. We continuously monitor our existing treatment plants, pipeline network and pump stations for odor releases and we respond in the following ways:

- Add chemicals or biological enzymes at certain points in our pipeline network
- Install odor scrubbers using either wet chemicals or activated carbon in high-odor areas
- Chlorinate wastewater entering the treatment plant
- Continually explore solutions to odor issues
- Respond immediately to citizen complaints.

The Wastewater Treatment Division makes every effort to respond to odor complaints promptly and effectively.

**South Treatment Plant Odor Control Hotline 206-684-2404.**

### HOME TIPS

## Stop Flushing and Can The Trash!

Unlike what some advertisers would lead you to believe, the only thing that should go down a toilet is toilet paper and human waste. Using a toilet as a trash can may damage plumbing, the environment and our regional wastewater treatment system. As a local plumber says, "Well, it sure keeps me in a job...and the clogged pipes usually happen at really inconvenient times like Thanksgiving Dinner."

Visitors who tour our treatment plants learn the importance of not using the toilet as a trash can.

When wastewater comes to the plant, things that are flushed down the toilet come with it and have to be screened out before the water can be treated. The dumpster that holds these screening is filled with all sorts of "icky" things: tampons, condoms, the stickers that come on fruits and vegetables, sanitary napkins, and disposable diapers. A good rule of thumb, if something isn't biodegradable, put it in the trash can or recycle it.

Although they are not as visible as the items listed above, unused medications should also go in the trash. If they are flushed down the toilet, they end up dissolving in the wastewater and sometimes they can't be removed and end up going back out into the environment.

To find out how to get rid of plastics, paint and all kinds of other stuff you don't want or need, check the Web at <http://dnr.metrokc.gov/WTDC/community/oldstuff.htm>. This site tells you what can go down toilets, sinks and other household drains, what should go in the garbage and things that should be disposed of in other safe and healthy ways. If you don't have access to the Web, call 206-296-8361 and request a chart.



The view and odor over the "dumpster"...



...the dumpster itself.

